



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,653	12/22/2003	Juan-Antonio Carballo	AUS920030892US1(4021)	7580
45557	7590	06/05/2007	EXAMINER	
IBM CORPORATION (JSS) C/O SCHUBERT OSTERRIEDE & NICKELSON PLLC 6013 CANNON MOUNTAIN DRIVE, S14 AUSTIN, TX 78749			NGUYEN, DUC M	
		ART UNIT	PAPER NUMBER	
		2618		
		MAIL DATE	DELIVERY MODE	
		06/05/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/743,653	CARBALLO, JUAN-ANTONIO	
	<b>Examiner</b>	<b>Art Unit</b>	
	Duc M. Nguyen	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 14 March 2007.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 18-41 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 18-41 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 14 March 2007 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

This action is in response to applicant's response filed on 3/14/07. Claims 18-41 are now pending in the present application. **This action is made final.**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 18-22, 24-26, 29-32, 34-41 are rejected under 35 U.S.C. 103(a) as being unpatentable by **Fung** (US 2003/0196126) in view of **Zeitler et al** (US 2004/0153507).

Regarding claim 18, **Fung** discloses a method for reducing power consumption by multiple links (multiple servers) between an origin and a destination of a data transmission (see Fig. 1), the method comprising:

determining an activity for the links based upon forwarding logic (routing table), the activity being related to a characteristic for a data transmission via a channel of the link (see Fig. 13 and [0086, 0155-157]), wherein it is clear that since the global master is coupled to the router (Fig. 13), this global master would implicitly need a routing table in the router (see [0090]) in order to forward the command to a particular server (see [0156]) to control a power mode for that particular server in the similar way as disclosed by **Zeitler** (see [0029-0031, 0049, 0061-0063]) ;

associating the activity with a power mode for the links, wherein the power mode is related to the characteristic (see [0097-0103]); and

communicating the power mode to configure circuitry associated with the link to operate in the power mode to process the data transmission (see [0099-0104]).

Therefore, the claimed limitation regarding a forward logic is made obvious by Fung and Zeitler.

Regarding claim 19, **Fung** would teach the determining comprises selecting a medium for at least one of the channels as claimed (see [0099] regarding Ethernet medium or [0122] regarding wires or buses).

Regarding claim 20, **Fung** would teach the determining comprises inactive activity as claimed [see [0103]].

Regarding claim 21, **Fung** would teach associating the transmission frequency with a configuration of the circuitry as claimed (see [0099, 0104]).

Regarding claim 22, **Fung** would teach clock and data recovery as claimed (see Fig. 10 and [0107] and [0110 – 0111], wherein “suspend/resume” which would read on “data recovery”).

Regarding claim 24, **Fung** would teach reducing a frequency of a serialization circuit as claimed (see Figs. 10, 11 and [0107, 0081-0084, 0126, 0133], [0223], [0224]).

Regarding claim 25, the claim is rejected for the same reason as set forth in claim 18 above. In addition, it is clear that **Fung** would teach a first port (see [0031] regarding input/output ports for each server) comprising a first link circuit to couple to the first device (a first server) and a second port (see [0031] regarding input/output ports)

comprising a second link circuit to couple to the second device (a second server) as claimed (see Figs. 1, 13), and would teach global controller and local controller as claimed (see [0156, 0157, 0186, 0187 and [0193-0199]).

Regarding claim **26**, **Fung** would teach the link circuit being a clock and data recovery loop, wherein an ability of the clock and data recovery loop to track changes in a phase of the data transmission is related to the multiple power modes of the clock and data recovery loop (see Fig. 10 and [0104], [0107] and [0110 – 0111] regarding “suspend/resume” which would read on “data recovery”).

Regarding claims **29, 30**, **Fung** would teach an interpretation logic to adjust voltage and frequency (see [0107], [0156]), and a control signal relate to traffic type (activity) as claimed (see [0103]).

Regarding claims **31, 34**, it is clear that **Fung** would teach an interpretation logic to adjust voltage and frequency (see [0107], [0156, 0157]), and a control signal relate to traffic type (activity) as claimed (see [0103]) for the second link in the similar way as for the first link.

Regarding claim **32**, the claim is rejected for the same reason as set forth in claim 18 above. In addition, it is clear that **Fung** would implicitly teach a pre-emphasis circuit for a transmitter of an output port (see Fig. 10), in order to transmit or write a signal from one server to another server .

Regarding claim **35**, the claim is rejected for the same reason as set forth in claim 34 above. In addition, it is clear that **Fung** would teach a table associated with the power mode as claimed (see [0098, 0128, 0223]).

Regarding claim **36**, the claim is rejected for the same reason as set forth in claim 18 above. In addition, it is clear that Fung would teach global controller and local controller as claimed (see Figs. 15-23 and [0156, 0157, 0186, 0187 and [0193-0199]).

Regarding claims **37-38, 40**, it is clear that Fung would teach a local link control to adjust voltage and frequency (see [0107], [0156, 0157]), and a control signal relate to traffic type (activity state or load) as claimed (see [0103]).

Regarding claim **41**, the claim is rejected for the same reason as set forth in claim 18 above. In addition, it is clear that Fung, in view of Zeitler, would teach a routing decision for determining data frequency, traffic type and medium type as claimed (see Fung, [0086, 0107, 0122, 0156, 0157] and Zeitler, [0029, 0031, 0032])

3. Claims **23, 27-28, 39** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Fung** in view of **Zeitler** and further in view of **Bui** (US 7,047,428).

Regarding claims **23, 27-28, 39**, the claim is rejected for the same reason as set forth in claim 18 above. In addition,.. In addition, it is clear that when reconfiguration the circuit in sleep mode or Wake on mode for power conservation as suggested by Fung (see [0117, 0167, 0170, 0196]), one skilled in the art would recognize that the configuring circuit in Fung would implicitly comprise transmitter and receiver circuits (or read/write ports or input/output ports). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Fung to reduce/activate a gain and equalization circuit in the similar way as disclosed by **Bui** (see col. 6, lines 12-26), in order to reduce the transmission power during inactivity period.

4. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable by **Fung** in view of **Zeitler** and further in view of **Mills** (US 6,795,450).

Regarding claim 33, the claim is rejected for the same reason as set forth in claim 25 above. In addition, since Fung teaches different control voltages for different medium (i.e, wires, traces or buses, see [0122]), which would comprise different lengths for each medium, and since it is known that the attenuation is a function of cable length and its frequency as disclosed by **Mills** (see col. 6, lines 26-30), it would have been obvious to one skilled in the art at the time the invention was made to modify Fung to indicate a length associated with the medium as claimed, so that a proper control voltage for a medium and its associated length are both utilized in calculation the power control, for further improving the performance of the system.

#### ***Response to Arguments***

5. Applicant's arguments with respect to claims 18-41 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

See the attached PTO-892.

8. **Any response to this final action should be mailed to:**

Box A.F.

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(571) 273-8300 (for **formal** communications intended for entry)

(571)-273-7893 (for informal or **draft** communications).

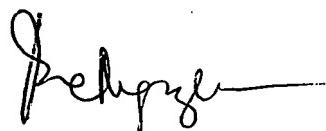
Hand-delivered responses should be brought to Customer Service Window,  
Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

Art Unit: 2618

Any inquiry concerning this communication or communications from the examiner should be directed to Duc M. Nguyen whose telephone number is (571) 272-7893, Monday-Thursday (9:00 AM - 5:00 PM).

Or to Matthew Anderson (Supervisor) whose telephone number is (571) 272-4177.

Duc M. Nguyen, P.E.



May 19, 2007